

Ball Valve (VS), 2", 2-way, Cv 108



2-year warranty

Type overview

Type	DN
B249VS	50

Technical data

Functional data	Valve size [mm]	2" [50]
Fluid	chilled or hot water, up to 60% glycol, steam	
Fluid Temp Range (water)	-22...280°F [-30...138°C]	
Body Pressure Rating	600 psig WOG psi	
Close-off pressure Δ ps	600 psi	
Flow characteristic	modified equal percentage	
Leakage rate	ANSI Class VI	
Pipe connection	Internal thread NPT (female)	
Max Differential Pressure (Steam)	35 psi	
Flow Pattern	2-way	
Controllable flow range	90° rotation	
Cv	108	
Maximum Inlet Pressure (Steam)	35 psi [241 kPa]	
Maximum Velocity	15 FPS	
Materials	Valve body	Bronze B584-C84400
Housing seal	PTFE	
Stem	316 stainless steel	
Stem seal	RPTFE	
Seat	RPTFE	
Lock nut	stainless steel	
Retainer	B584-C84400 bronze	
Ball	316 stainless steel	
Suitable actuators	Non Fail-Safe	GMB(X) PRB(X) SY1
Spring	AF	
Electrical fail-safe	GMB(X) PKRB(X)	

Safety notes

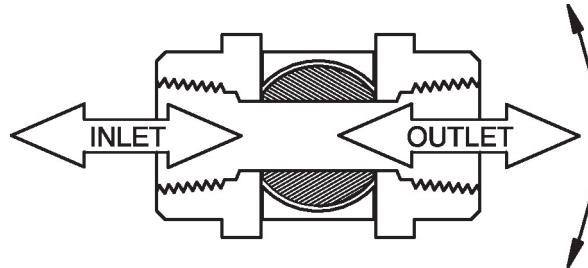


- **WARNING:** This product can expose you to lead which is known to the State of California to cause cancer and reproductive harm. For more information go to www.p65warnings.ca.gov

Product features

Application	This valve is typically used in air handling units on heating or cooling coils, and fan coil unit heating or cooling coils. Some other common applications include Unit Ventilators, VAV Box re-heat coils and bypass loops. This valve is suitable for use in a hydronic system with variable flow.
	This valve is designed with MFT functionally which facilitates the use of various control input.
	Up to 35 psi steam
	1/2" - 2" 600 PSIG WOG, Cold Non-Shock
	Federal Specification: WW-V-35C, Type II
	Composition: BZ
	Style: 3

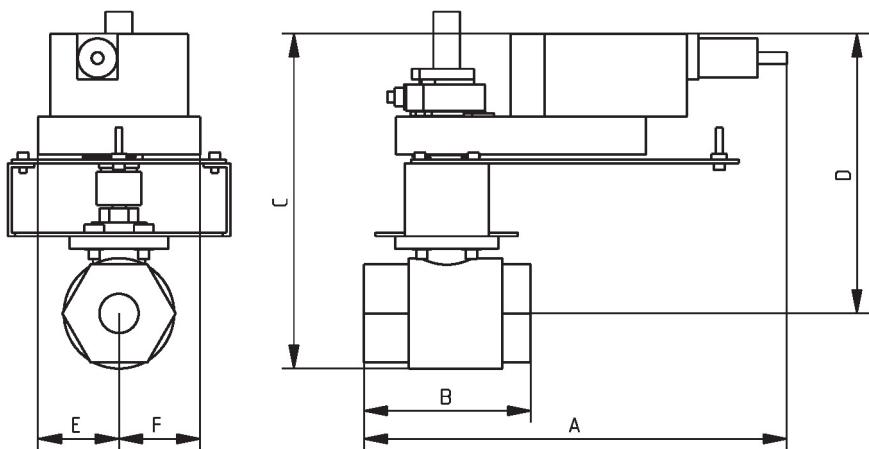
Flow/Mounting details



Dimensions

Type	DN	Weight
B249VS	50	6.2 lb [2.8 kg]

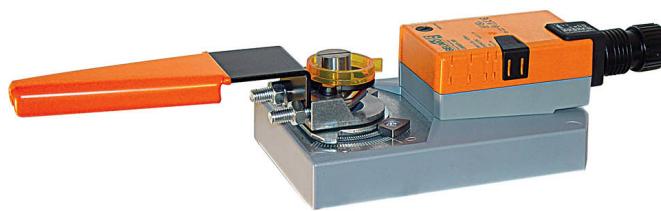
Dimensions



B249VS+GK..X1

A	B	C	D	E	F
11.9" [302]	4.7" [119]	10.0" [254]	7.9" [200]	2.3" [58]	2.3" [58]

On/Off, Floating point, Non fail-safe, 24 V



5-year warranty



Technical data

Electrical data	Nominal voltage	AC/DC 24 V
	Nominal voltage frequency	50/60 Hz
	Nominal voltage range	AC 19.2...28.8 V / DC 21.6...28.8 V
	Power consumption in operation	4 W
	Power consumption in rest position	2 W
	Transformer sizing	6 VA
	Electrical Connection	18 GA plenum cable, 1 m, with 1/2" NPT conduit connector, degree of protection NEMA 2 / IP54
	Overload Protection	electronic throughout 0...95° rotation
Functional data	Torque motor	40 Nm
	Direction of motion motor	selectable with switch 0/1
	Manual override	external push button
	Angle of rotation	Max. 95°
	Angle of rotation note	adjustable with mechanical stop
	Running Time (Motor)	150 s / 90°
	Running time motor note	constant, independent of load
	Noise level, motor	45 dB(A)
	Position indication	Mechanical, 30...65 mm stroke
Safety data	Power source UL	Class 2 Supply
	Degree of protection IEC/EN	IP54
	Degree of protection NEMA/UL	NEMA 2
	Enclosure	UL Enclosure Type 2
	Agency Listing	cULus acc. to UL60730-1A/-2-14, CAN/CSA E60730-1:02 CE acc. to 2014/30/EU and 2014/35/EU
	Quality Standard	ISO 9001
	UL 2043 Compliant	Suitable for use in air plenums per Section 300.22(C) of the NEC and Section 602 of the IMC
	Ambient humidity	Max. 95% RH, non-condensing
	Ambient temperature	-22...122°F [-30...50°C]
	Storage temperature	-40...176°F [-40...80°C]
	Servicing	maintenance-free
Weight	Weight	4.1 lb [1.9 kg]
Materials	Housing material	Galvanized steel and plastic housing

Technical data

Footnotes [†]Rated Impulse Voltage 800V, Type action 1, Control Pollution Degree 3.

Accessories

Electrical accessories	Description	Type
Battery backup system, for non-spring return models		NSV24 US
Battery, 12 V, 1.2 Ah (two required)		NSV-BAT
Feedback potentiometer 140 Ω add-on, grey		P140A GR
Feedback potentiometer 500 Ω add-on, grey		P500A GR
Feedback potentiometer 1 k Ω add-on, grey		P1000A GR
Feedback potentiometer 2.8 k Ω add-on, grey		P2800A GR
Feedback potentiometer 5 k Ω add-on, grey		P5000A GR
Feedback potentiometer 10 k Ω add-on, grey		P10000A GR
Auxiliary switch 1x SPDT add-on		S1A
Auxiliary switch 2x SPDT add-on		S2A

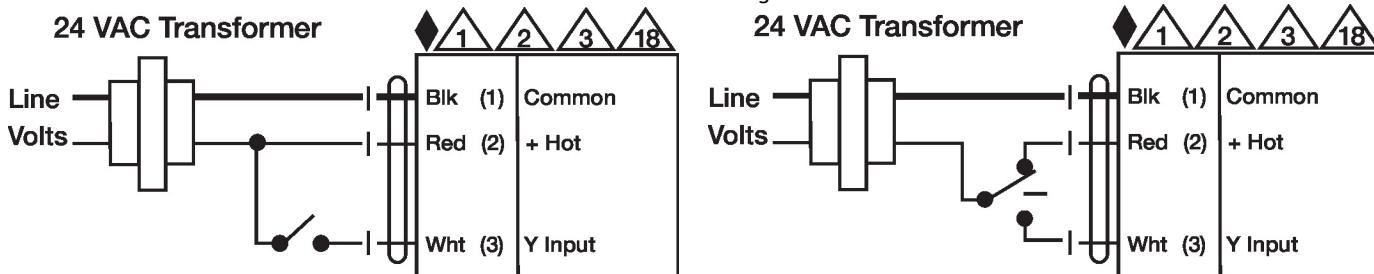
Electrical installation

 **INSTALLATION NOTES**

-  **A** Actuators with appliance cables are numbered.
-  **1** Provide overload protection and disconnect as required.
-  **3** Actuators may also be powered by DC 24 V.
-  **6** Actuators Hot wire must be connected to the control board common. Only connect common to neg. (-) leg of control circuits. Terminal models (-T) have no-feedback.
-  **11** Actuators may be connected in parallel if not mechanically linked. Power consumption and input impedance must be observed.
-  Meets cULus requirements without the need of an electrical ground connection.
-  **!** **Warning! Live electrical components!**
During installation, testing, servicing and troubleshooting of this product, it may be necessary to work with live electrical components. Have a qualified licensed electrician or other individual who has been properly trained in handling live electrical components perform these tasks. Failure to follow all electrical safety precautions when exposed to live electrical components could result in death or serious injury.

Wiring diagrams

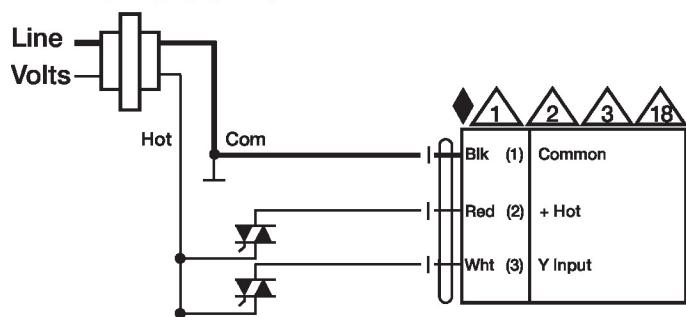
On/Off



Electrical installation

Wiring diagrams

24 VAC Transformer

Floating Point - Triac Sink
24 VAC Transformer